

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (original) A device for the regeneration of tissue, specifically bone regeneration by means of callus distraction, having a membrane (4, 4', 24, 35) that is permeable for the exchange of nutrients at least for serum and structurally stable, incorporating a surface (15) that is to be bonded to a tissue to be regenerated, specifically a vital bone (2, 22, 38, 39), and having means (9, 5, 6, 25, 36) whereby the membrane (4, 4', 24, 35) is movable for the regeneration with a certain pulling force and speed, characterized in that said membrane (4, 4', 24, 35) on its side facing the tissue or bone incorporates means for the biological anchoring and adhesion for tissue or bone cells.

2. (original) A device according to claim 1, characterized in that the means (16) for the biological anchoring of tissue cells and specifically bone cells incorporates protein molecules and/or osteoblasts (17) and/or interconnecting pores.

3. (original) A device according to claim 2, characterized in that the protein molecules are short-chain molecules.

4. (original) A device according to any of claims 1 through 3, characterized in that the means for the biological anchoring of tissue cells and specifically bone cells substantially extend over the total surface (15) to be anchored of the membrane (4, 4', 24, 35).

5. (currently amended) A device according to ~~any of claims 1 through 4~~ claim 1, characterized in that osteoblasts (18), which are anchored to said means (16) for biological adhesion, are colonized on said surface (15) of the membrane (4, 4', 24, 35).

6. (currently amended) A device according to claim 5, characterized in that the osteoblasts (18) are anchored to short-chain protein molecules by means of adhesion.

7. (currently amended) A device according to ~~any of claims 1 through 7~~ claim 1, characterized in that the means (9, 5, 6, 25, 36) for moving the membrane (4, 4', 24, 35) are mechanical pulling or pushing means.

8. (currently amended) A device according to ~~any of claims 1 through 6~~ claim 1, characterized in that the means

(9) for moving the membrane (4, 4', 24, 35) incorporate at least one magnet (9) whereby a force is exerted upon the membrane (4, 4').

9. (original) A membrane for the regeneration of tissue, specifically callus distraction, wherein said membrane is permeable for the exchange of nutrients and incorporates a surface (15) to be placed onto a bone (2, 22, 38, 39) being regenerated and moved for the callus distraction, characterized in such a way that said surface (15) incorporates means (16) for the biological adhesion of osteoblasts (18) and/or growing-in of vessels.

10. (original) A membrane according to claim 9, characterized in that it is structurally stable so that it is movable substantially without deformation for stretching of a callus (K).

11. (original) A membrane according to claim 9 or 10, characterized in that it incorporates a carrier (13) that is provided with a plurality of passages (14).

12. (original) A membrane according to claim 11, characterized in that the carrier (13) is made of metal, preferably titanium.

13. (original) A membrane according to any of claims 9 through 11, characterized in that the carrier (13) is an open-pore metal plate, or a grid or net and that on the carrier (13) a [...]is permeable for nutrients.

14. (original) A membrane according to claim 13, characterized in that said means (16) for the biological adhesion of osteoblasts (17, 18) are disposed on the carrier (13), as well as on said layer (10).

15. (original) A membrane according to any of claims 9 through 14, characterized in that said means (16) for the biological adhesion of osteoblasts (17, 18) are organic molecules.

16. (original) A membrane according to claim 15, characterized in that the organic molecules are protein molecules.

17. (original) A membrane according to claim 16, characterized in that the protein molecules are short-chain.

18. (original) A membrane according to any of claims 9 through 17, characterized in that the surface to be bonded is provided for the biological bonding of the bone tissue with hydroxyl groups and/or amine groups.

19. (original) A membrane according to any of claims 9 through 18, characterized in that the surface to be bonded incorporates micro-structural, meso-structural and macro-structural indentations with the following dimension ranges:

micro-structural  $< 5 \mu\text{m}$

meso-structural  $5 - 25 \mu\text{m}$

macro-structural  $10 - 1,000 \mu\text{m}$

20. (original) A membrane according to any of claims 9 through 19, characterized in that the surface to be bonded is structured by sand blasting.

21. (original) A process for tissue regeneration and specifically bone regeneration through callus distraction, wherein a membrane (4, 4') that is permeable for the exchange of nutrients is bonded to a tissue or vital bone (2) being regenerated and moved for the distraction, characterized in that a surface (15) of the membrane (4, 4') facing the tissue or bone (2) incorporates means (16) for the biological adhesion of osteoblasts (17, 18), that the membrane 4, 4') is placed onto the tissue or vital bone (2) location being regenerated, and that the membrane (4, 4') is moved away from the tissue or vital bone (2) for the distraction at a certain speed.

22. (original) A process according to claim 18, characterized in that the membrane (4, 4'), prior to placing it on the tissue or vital bone (2), is provided with osteoblasts (18) on the surface (15) to be placed against the vital bone (2).

23. (original) A process according to claim 18 or 19, characterized in that the membrane (4, 4') is moved away from the tissue or vital bone (2) by means of at least one magnet (9) or mechanical pulling means (5, 6), at a speed of 0.5 to 22 mm per day.

24. (original) A process according to any of claims 21 through 23, characterized in that the tissue is one of a type wherein cell proliferation and differentiation is initiated through bio-mechanical transmission of stimuli onto the cytoskeleton and growth or regeneration of tissue can be attained.